

Work Order ID 90559

90559

Page 1

September-19-12 2:34:30 PM

Item ID: D3650-9 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Angle
 Start Date: 9/18/12 Start Qty: 6.00 *6* Cust Item ID:
 Required Date: 10/05/12 Req'd Qty: 6.00 *6* Customer:
 Reference:

Approvals: Process Plan: MLJ Date: 12-09-20 Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr					(10)			
D3650	Rev D								
100	FLOW WATER JET	0.00							
100									
Waterjet	Memo	0.00							
FLOW CNC Waterjet	1-Cut as per Dwg D3650Dwg Rev: <u>D</u> Prog Rev: <u>D</u> 2-Deburr								
304 .018	if necessary								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110									
QC	Memo	0.00							
Quality Control									
120	QC8- Inspect parts - second check	0.00							
120									
QC	Memo	0.00							
Quality Control									

B12-9-23

B12-9-23

SMB
12.9.24
DAS
16
3.8
12/6/125

10

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input type="checkbox"/>									
Equip/Tooling <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Material <input type="checkbox"/>									
Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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 Item Name: Angle
 Start Date: 9/18/12 Start Qty: 6.00 ***6*** Cust Item ID:
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 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* Brake NC Brake NC	NC BRAKE Memo Form as per Dwg D3650	0.00 0.00				10			SL 12/24/24
140 *140* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00	Smb 12.9.24	(DAS 15 9-83 17/09/26		10			
150 *150* Packaging Packaging	Identify as per dwg & Stock Location <u>GA</u> Memo	0.00 0.00				10		SL 12/9/25	

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											

FAULT CATEGORY									
Landing Gear			General						
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Grain	<input type="checkbox"/> Ovalized	<input type="checkbox"/> Pressure/Forced					
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Hardware	<input type="checkbox"/> Over/Under tolerance	<input type="checkbox"/> Temperature/Cure					
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damaged	<input type="checkbox"/> Inspection Incomplete	<input type="checkbox"/> Part Incorrect	<input type="checkbox"/> Weld					
<input type="checkbox"/> Crushed/Crimped	<input type="checkbox"/> Burrs	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Part Lost/Missing	<input type="checkbox"/> Wrong Stock Pulled					
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Part Moved						
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Countersink	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Positioned Wrong	<input type="checkbox"/> Other					
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Misread	<input type="checkbox"/> Power Loss/Surge						
<input type="checkbox"/> Ripples in Bend	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Offset							
<input type="checkbox"/> Torque Waves in Extrusion	<input type="checkbox"/> Drawing	<input type="checkbox"/> Out of Calibration							
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Sequence							
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Folio	<input type="checkbox"/> Outside Dimensions							

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Page 3

September-19-12 2:34:30 PM

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 Item Name: Angle
 Start Date: 9/18/12 Start Qty: 6.00 ***6*** Cust Item ID:
 Required Date: 10/05/12 Req'd Qty: 6.00 ***6*** Customer:
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC21- Final Inspection - Work Order Release	0.00							
160									
QC	Memo	0.00							
Quality Control									

12/9/26 JJ

MMF
1209.25

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											

FAULT CATEGORY											
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

Picklist Print

September-19-12 2:34:29 PM

Page 1

Work Order ID: 90559

Parent Item: D3650-9

Parent Item Name: Angle

Start Date: 9/18/12

Required Date: 10/05/12

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP Rev:A New Issue 07-09-27 DD verified by: EC
 IPP Rev:B ECN 1113P 08-01-22 DD verified by: EC
 IPP Rev:C ecn1162 08-04-02 DD verified by: EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S26GA 304/316 0.018 SHEET		Purchased	No			110	sf	171.5600	0.051	0.3221052		12-9-23	

Location

Loc Qty

Loc Code

MAT020

171.56

117798

35.06

122753

136.5

172753

10

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

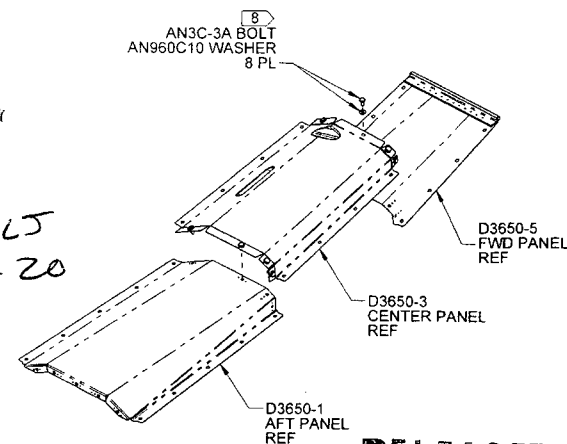
QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											

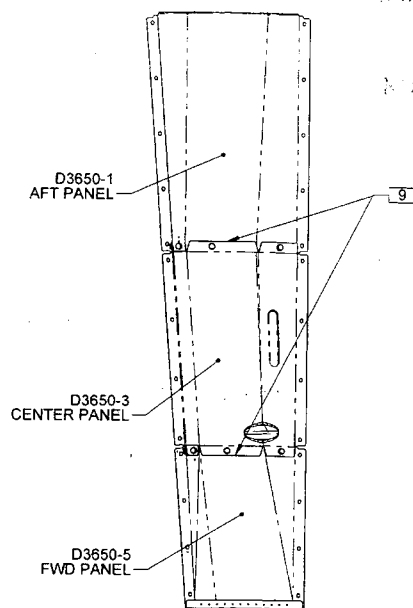
FAULT CATEGORY									
Landing Gear			General						
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Grain	<input type="checkbox"/> Ovalized	<input type="checkbox"/> Pressure/Forced					
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Hardware	<input type="checkbox"/> Over/Under tolerance	<input type="checkbox"/> Temperature/Cure					
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damaged	<input type="checkbox"/> Inspection Incomplete	<input type="checkbox"/> Part Incorrect	<input type="checkbox"/> Weld					
<input type="checkbox"/> Crushed/Crimped.	<input type="checkbox"/> Burrs	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Part Lost/Missing	<input type="checkbox"/> Wrong Stock Pulled					
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Part Moved						
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Countersink	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Positioned Wrong	<input type="checkbox"/> Other					
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Misread	<input type="checkbox"/> Power Loss/Surge						
<input type="checkbox"/> Ripples in Bend	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Offset							
<input type="checkbox"/> Torque Waves in Extrusion	<input type="checkbox"/> Drawing	<input type="checkbox"/> Out of Calibration							
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Sequence							
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Folio	<input type="checkbox"/> Outside Dimensions							

QTY -041	PART NUMBER	DESCRIPTION
X	D3650-041	TUNNEL TOP PANEL ASSEMBLY
1	D3650-1	AFT PANEL
1	D3650-3	CENTER PANEL
1	D3650-5	FWD PANEL
8	AN3C-3A	BOLT
8	AN960C10	WASHER

SHOW COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
90559 MLJ
12-09-20



RELEASED
2012-08-24



D3650-041 TUNNEL TOP PANEL ASSEMBLY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 3.3 lbs
- 8) TORQUE FASTENERS 15 TO 25 in-lb
- 9) SEAL-ALL-MATING SURFACES AND ALL-GAPS USING PROSEAL 700 FIRE WALL SEALANT

D	D3650-11 REPLACED WITH AN EMBOSS, PAGE 4 DELETED. D3650-3 BEND RELIEFS CHANGED TO TRIANGULAR SHAPE AT BOTH ENDS. D3650-3 HOLES CHANGED TO SLOTS. ALL NOTES UPDATED TO CONFORM TO QSI 043. TIGHTENED CUT TOLERANCES IN ALL FLAT PATTERNS. ADDED: 0.0098 HOLES 12 PLACES (C7-7) D.E.O. D3650-C-1 INCORPORATED.	RP	12.08.12
C	REFORMATTED TO NEW STANDARDS; RELOCATED PART LIST (ZN D2-2); ADDED SECTION VIEW J-J & REVISE DIMENSIONS (ZN B7-5, C4-5); ADDED RECESS LOCATION & REVISED DIMENSIONS (ZN C6-6, D5-6); MS20615-4MS WAS CR3523-4-03 & NAS1149CN432R WAS AN960C4 (ZN D5-7, B5-7, B8-7)	RF	08.10.14
B	SHEETS 1, 2 & 7: UPDATED FASTENER QUANTITIES; UPDATED VIEWS SHEETS 3 & 8: REMOVED/RELOCATED HOLES; UPDATED VIEWS SHEET 4: 1.8 WAS 1.5; 1.0 WAS 0.8; UPDATED VIEW, ADDED NOTE 8 SHEET 5: REMOVED NOTE IN C6 & ASSOCIATED DIMS; UPDATED VIEWS SHEET 6: REMOVED/RELOCATED HOLES & ADDED CUTOFF TO D3650-3F; MOVED D3650-11/11F TO SHEET 9; ADDED DETAIL I SHEET 9: RELOCATED D3650-11/11F FROM SHEET 6; UPDATED DIMS OF D3650-11/11F	RF	08.01.07
A	NEW ISSUE	RF	07.11.07
REV.	DESCRIPTION	BY	DATE
DESIGN	RF		
DRAWN	RP		
CHECKED	ASS		
MFG. APPR.	DS		
APPROVED	JS		
DE APPR.	JS		
DATE	12.08.12		

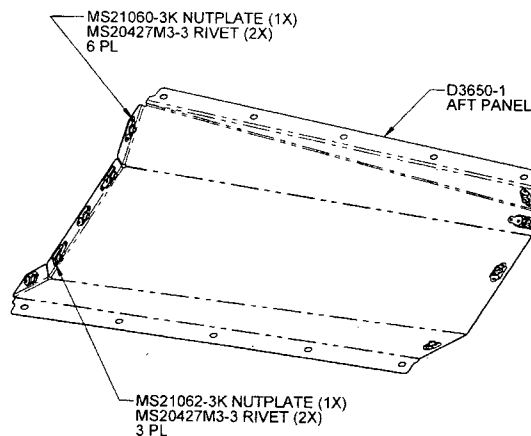
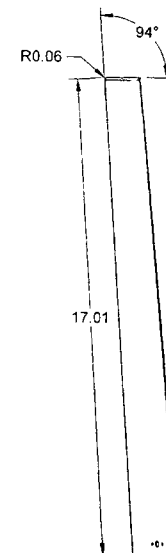
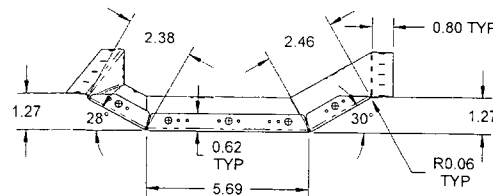
DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. REV. D
D3650 SHEET 1 OF 8
TITLE SCALE
TOP PANEL ASSEMBLY NTS

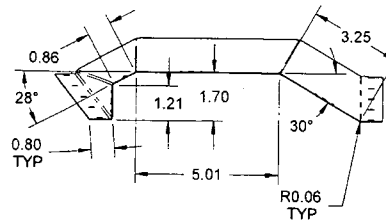
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90559

QTY	PART NUMBER	DESCRIPTION
X	D3650-1	AFT PANEL
1	D3650-1B	AFT PANEL BENT PART
18	MS20427M3-3	RIVET
6	MS21060-3K	NUTPLATE
3	MS21062-3K	NUT PLATE



D3650-1 AFT PANEL



D3650-1B AFT PANEL BENT PART

- NOTES:
- 1) MATERIAL: MAKE FROM D3650-1F
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 1.3 lbs

RELEASED
2012-08-24

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	ALS	DRAWING NO.	REV. D
MFG. APPR.	DS	D3650	SHEET 2 OF 8
APPROVED	JS	TITLE	SCALE
DE APPR.	JS	TOP PANEL ASSEMBLY	NTS
DATE	12.08.12	COPYRIGHT © 2012 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE SAME BASIS. IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

Technical drawing of a mechanical part, likely a bracket or plate, showing dimensions, angles, and details. The drawing includes a main view with dimensions and angles, and two detail views labeled "DETAIL A" and "DETAIL B".

Main View Dimensions and Features:

- Overall width: 16.611
- Overall height: 12.020
- Top horizontal dimension: 15.800 (3.950 PITCH BOTH SIDES)
- Left vertical dimensions: 12.020, 11.24, 10.665, 9.551, 9.09, 7.183, 4.07, 2.256, 0.115
- Right vertical dimensions: 12.252, 10.313, 8.226, 6.126, 4.026, 2.495, 2.019, 0.175
- Bottom horizontal dimensions: 16.646, 17.583
- Angles: DOWN 29.86° R 0.063 REF, UP 29.89° R 0.063 REF, UP 28.03° R 0.063 REF, UP 61.80° R 0.063 REF, DOWN 89.99° R 0.063 REF, UP 94.56° R 0.063 REF, UP 94.00° R 0.063 REF, UP 93.46° R 0.063 REF
- Features: M 10 PL, D, A4-3, B1-3, C, R0.13 TYP

DETAIL A (C7-3):

- Hole diameter: 0.098 (#40 DRILL)
- Hole diameter: 0.213 TYP
- Dimensions: 0.350, 0.344, 0.312

DETAIL B (C7-3):

- Hole diameter: 0.098 (#40 DRILL)
- Hole diameter: 0.213 TYP
- Dimensions: 0.344 TYP, 0.353 TYP

Additional Notes:

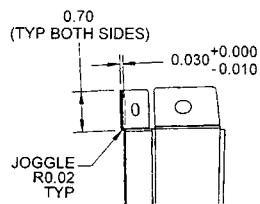
- 0.782 TYP
- 0.400 TYP
- 0.344 TYP
- 0.353 TYP
- 0.098 (#40 DRILL) DIMPLE HOLES FOR MS20427M3 RIVET, TYP
- 0.213 TYP
- 0.213 TYP
- 0.098 (#40 DRILL) DIMPLE HOLES FOR MS20427M3 RIVET, TYP
- 0.312
- 0.344
- 0.353
- 0.344
- 0.353
- 0.098 (#40 DRILL) DIMPLE HOLES
- 0.312

RELEASE
2012-08-24

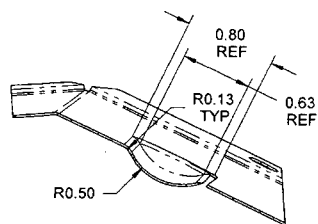
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D3650 TITLE TOP PANEL ASSEMBLY COPYRIGHT © 2012 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND NOT BE LOANED, REPRODUCED OR COPIED WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD. IT IS NOT TO BE USED FOR ANY PURPOSES OR COMMERCIAL OR COMMUNICATED TO ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	REV. D
DRAWN	RP		SHEET 3 OF 8
CHECKED	<i>AJS</i>		
MFG. APPR.	<i>[Signature]</i>		
APPROVED	<i>[Signature]</i>		SCALE
DE APPR.	<i>[Signature]</i>		NTS
DATE	12.08.12		

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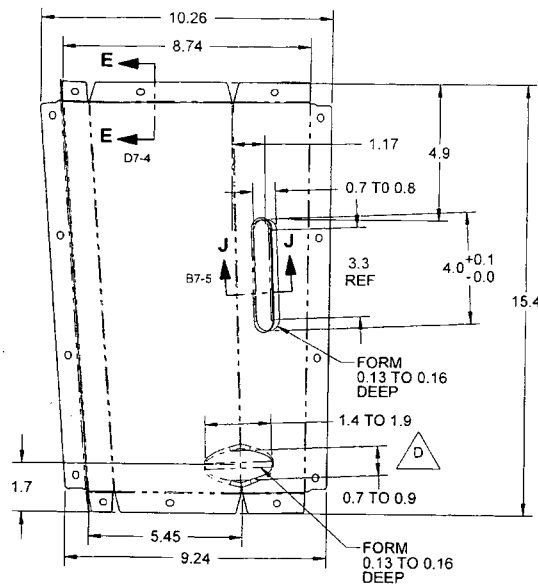
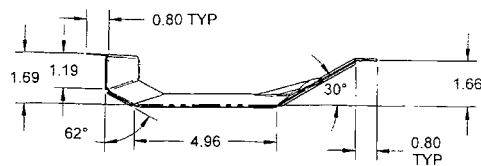
90589



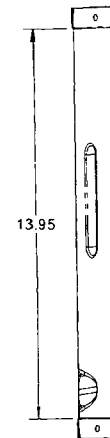
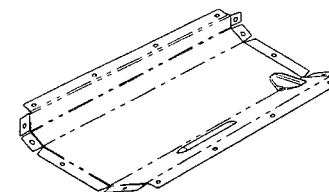
SECTION E-E C5-4



SECTION J-J C4-4



D3650-3 CENTER PANEL

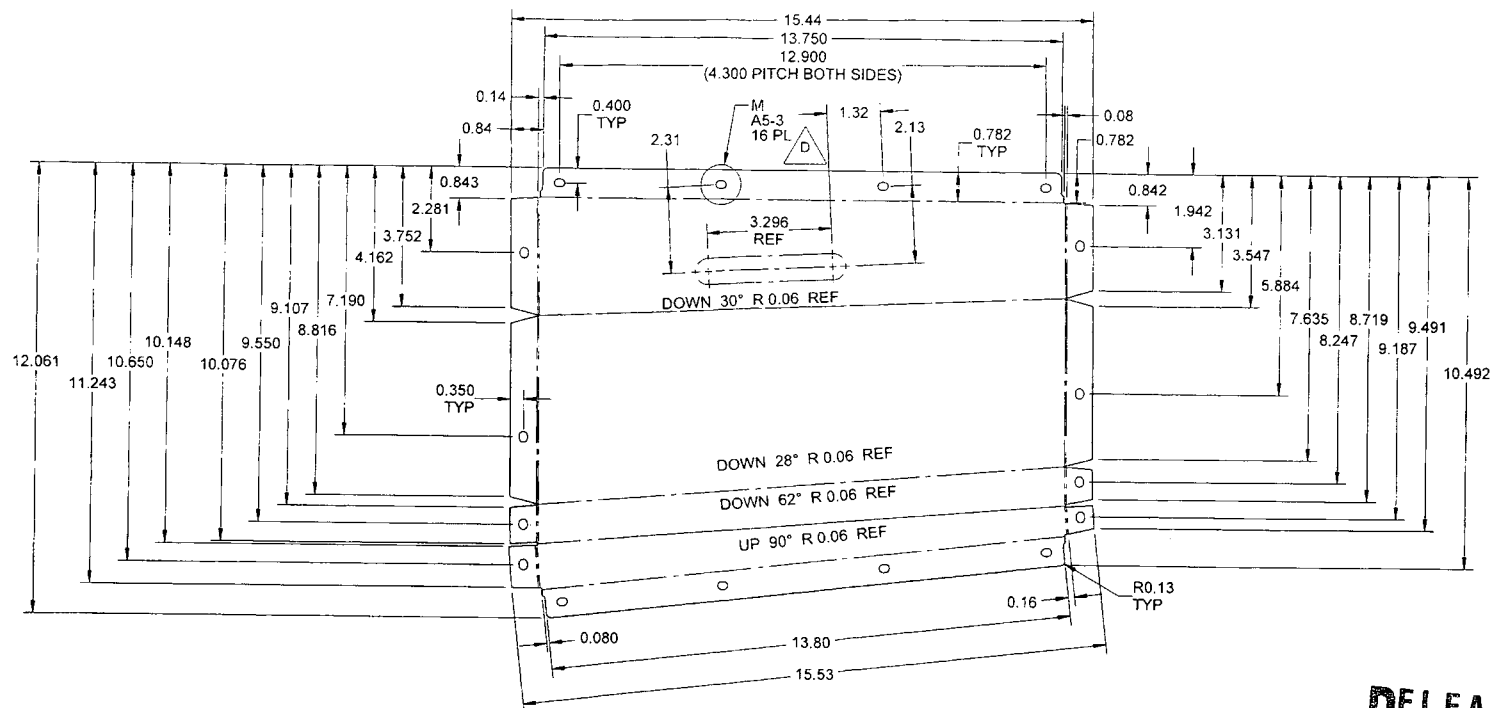


RELEASED
2012-08-24
JND

- NOTES:**
- 1) MATERIAL: MAKE FROM D3650-3F
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 0.98 lbs

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RP		
CHECKED	AS	DRAWING NO. D3650	REV. D
MFG. APPR.			SHEET 4 OF 8
APPROVED		TITLE	SCALE
DE APPR.		TOP PANEL ASSEMBLY	NTS
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90559



D3650-3F CENTER PANEL (FLAT PATTERN)

RELEASED
2012-08-26
JNP

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL 0.018 THICK (26 GAUGE) SHEET, PER MIL-S-5059 OR AMS 5513/5524 OR ASTM A240 OR ASME SA240 REF. DART SPEC. M304S26GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.98 lbs

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RP		
CHECKED	ASS	DRAWING NO. D3650	REV. D
MFG. APPR.	N	SHEET 5 OF 8	
APPROVED	N	TITLE	SCALE
DE APPR.	N	TOP PANEL ASSEMBLY	NTS
DATE	12:08:12	<small>COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	

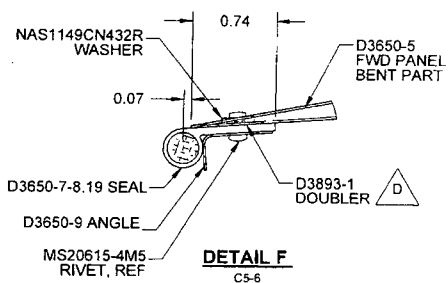
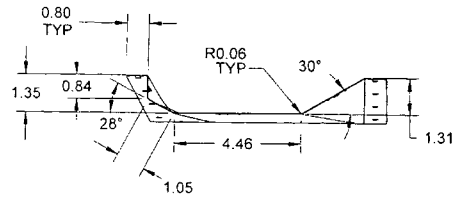
90559

QTY	PART NUMBER	DESCRIPTION
5	D3650-5	FWD PANEL
1	D3650-5B	FWD PANEL BENT PART
1	D3650-7-8.19	SEAL
1	D3650-9	ANGLE
1	D3893-1	DOUBLER
12	NAS1149CN432R	WASHER
12	MS20615-4M5	RIVET
8	MS20427M3-3	RIVET
2	MS21060-3K	NUTPLATE
2	MS21062-3K	NUTPLATE

MS21062-3K NUTPLATE (1X)
MS20427M3-3 RIVET (2X)
2 PL

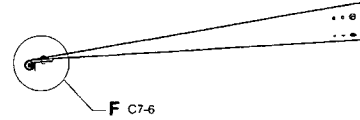
MS21060-3K NUTPLATE (1X)
MS20427M3-3 RIVET (2X)
2 PL

D3650-5B
FWD PANEL
BENT PART



DETAIL F
C5-6

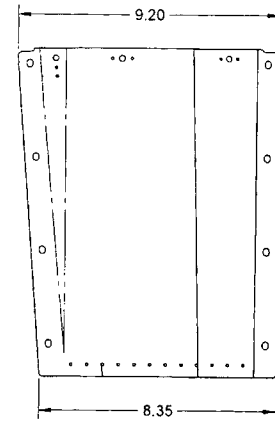
D3650-9
REF



D3650-5B
FWD PANEL
BENT PART
REF

CENTRE D3650-7-9 ON D3650-5B &
TRANSFER $\phi 0.129$ (#30 DRILL) HOLES
FROM D3650-9 TO D3650-7 & D3650-5B
AS SHOWN
INSTALL
MS20615-4M5 RIVET
NAS1149CN432R WASHER
12 PL

D3650-5 FWD PANEL



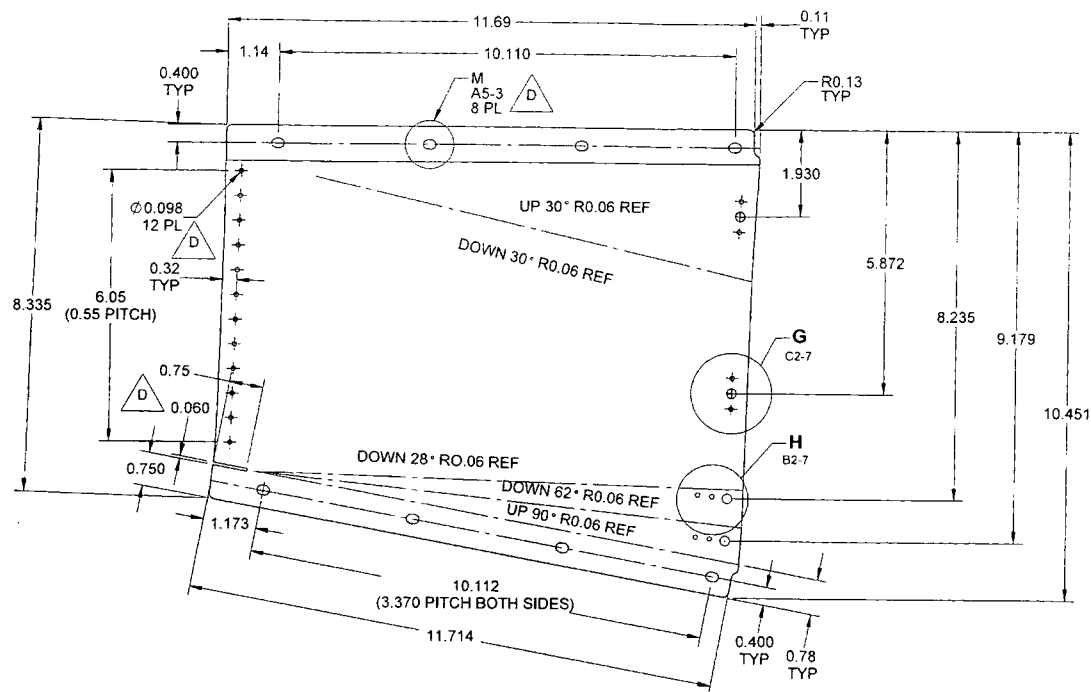
D3650-5B FWD PANEL BENT PART

RELEASED
2012-08-24

- NOTES:
- 1) MATERIAL: MAKE FROM D3650-5F
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 0.8 lbs

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RP		
CHECKED	ASS	DRAWING NO.	REV. D
MFG. APPR.	N	D3650	SHEET 6 OF 8
APPROVED	#	TITLE	SCALE
DE APPR.	#	TOP PANEL ASSEMBLY	NTS
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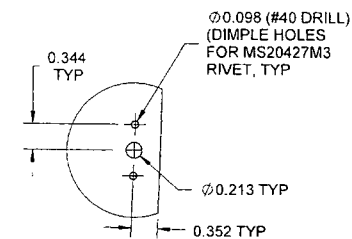
90559



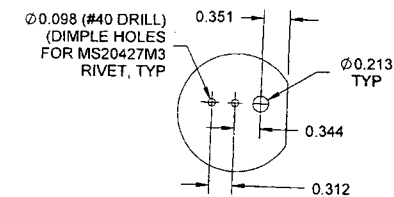
D3650-5F FWD PANEL (FLAT PATTERN)

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL 0.018 THICK (26 GAUGE) SHEET, PER MIL-S-5059 OR AMS 5513/5524 OR ASTM A240 OR ASME SA240 REF. DART SPEC. M304S26GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.6 lb



DETAIL G C5-7
2 PL

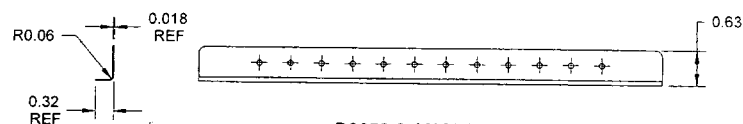


DETAIL H B5-7
2 PL

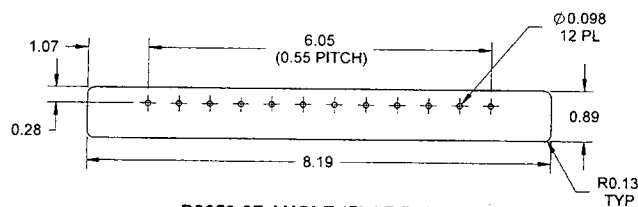
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2012-08-24

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RP		
CHECKED	ASS	DRAWING NO. D3650	REV. D
MFG. APPR.			SHEET 7 OF 8
APPROVED		TITLE	SCALE
DE APPR.		TOP PANEL ASSEMBLY	NTS
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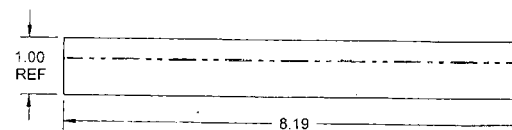
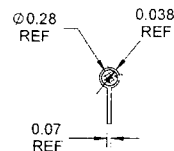
90559



D3650-9 ANGLE
(MAKE FROM D3650-9F)



D3650-9F ANGLE (FLAT PATTERN)



D3650-7-8.19 SEAL

- NOTES:**
- 1) MATERIAL: P/N 8168-1 TADPOLE SEAL (REF. BELL P/N 120-104-1)
POSSIBLE SUPPLIER: EAGLE COPTERS OR BELL
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 0.05 lb
 - 8) PART NUMBER: D3650-7-X XX
WHERE X.XX = LENGTH IN INCHES
EG. 12.50" LONG = D3650-7-12.50

D3650-9F

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL 0.018 THICK (26 GAUGE) SHEET,
PER MIL-S-5059 OR AMS 5513/5524 OR ASTM A240 OR ASME SA240
REF. DART SPEC. M304S26GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) D3650-9 WEIGHT: 0.05 lb

RELEASED
2012-08-24

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	ALS	DRAWING NO.	REV. D
MFG. APPR.	ALS	D3650	SHEET 8 OF 8
APPROVED	ALS	TITLE	SCALE
DE APPR.	ALS	TOP PANEL ASSEMBLY	NTS
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